



## Sequence Listing

### SEQUENCE LISTING

#### (1) GENERAL INFORMATION:

- (i) APPLICANT: Ashkenazi, Avi J.
  - (ii) TITLE OF INVENTION: Apo-2 LI AND Apo-3 POLYPEPTIDES
  - (iii) NUMBER OF SEQUENCES: 28
  - (iv) CORRESPONDENCE ADDRESS:
    - (A) ADDRESSEE: Genentech, Inc.
    - (B) STREET: 1 DNA Way
    - (C) CITY: South San Francisco
    - (D) STATE: California
    - (E) COUNTRY: USA
    - (F) ZIP: 94080
  - (v) COMPUTER READABLE FORM:
    - (A) MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
    - (B) COMPUTER: IBM PC compatible
    - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
    - (D) SOFTWARE: WinPatin (Genentech)
  - (vi) CURRENT APPLICATION DATA:
    - (A) APPLICATION NUMBER: 09/993234
    - (B) FILING DATE: 19-NOV-01
    - (C) CLASSIFICATION:
  - (vii) PRIOR APPLICATION DATA:
    - (A) APPLICATION NUMBER: 08/828683
    - (B) FILING DATE: 31-MAR-1997
  - (vii) PRIOR APPLICATION DATA:
    - (A) APPLICATION NUMBER: 08/625328
    - (B) FILING DATE: 1-Apr-1996
  - (vii) PRIOR APPLICATION DATA:
    - (A) APPLICATION NUMBER: 08/710802
    - (B) FILING DATE: 23-Sep-1996
  - (viii) ATTORNEY/AGENT INFORMATION:
    - (A) NAME: Marschang, Diane L.
    - (B) REGISTRATION NUMBER: 35,600
    - (C) REFERENCE/DOCKET NUMBER: P1007P1D1
  - (ix) TELECOMMUNICATION INFORMATION:
    - (A) TELEPHONE: 650/225-5416
    - (B) TELEFAX: 650/952-9881
- (2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 181 amino acids
  - (B) TYPE: Amino Acid
  - (D) TOPOLOGY: Linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Met	Glu	Gln	Arg	Pro	Arg	Gly	Cys	Ala	Ala	Val	Ala	Ala	Ala	Leu	1	5	10	15
Leu	Leu	Val	Leu	Leu	Gly	Ala	Arg	Ala	Gln	Gly	Gly	Thr	Arg	Ser	20	25	30	
Pro	Arg	Cys	Asp	Cys	Ala	Gly	Asp	Phe	His	Lys	Lys	Ile	Gly	Leu	35	40	45	
Phe	Cys	Cys	Arg	Gly	Cys	Pro	Ala	Gly	His	Tyr	Leu	Lys	Ala	Pro	50	55	60	
Cys	Thr	Glu	Pro	Cys	Gly	Asn	Ser	Thr	Cys	Leu	Val	Cys	Pro	Gln	65	70	75	
Asp	Thr	Phe	Leu	Ala	Trp	Glu	Asn	His	His	Asn	Ser	Glu	Cys	Ala	80	85	90	
Arg	Cys	Gln	Ala	Cys	Asp	Glu	Gln	Ala	Ser	Gln	Val	Ala	Leu	Glu	95	100	105	
Asn	Cys	Ser	Ala	Val	Ala	Asp	Thr	Arg	Cys	Gly	Cys	Lys	Pro	Gly	110	115	120	
Trp	Phe	Val	Glu	Cys	Gln	Val	Ser	Gln	Cys	Val	Ser	Ser	Ser	Pro	125	130	135	
Phe	Tyr	Cys	Gln	Pro	Cys	Leu	Asp	Cys	Gly	Ala	Leu	His	Arg	His	140	145	150	
Thr	Arg	Leu	Leu	Cys	Ser	Arg	Arg	Asp	Thr	Asp	Cys	Gly	Thr	Cys	155	160	165	
Leu	Pro	Gly	Phe	Tyr	Glu	His	Gly	Asp	Gly	Cys	Val	Ser	Cys	Pro	170	175	180	

Thr

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 433 base pairs
  - (B) TYPE: Nucleic Acid
  - (C) STRANDEDNESS: Single
  - (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

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CTGCTGGGGG CCCGGGCCAG NGGCGGCACT CGTAGCCCCA GGTGTGACTG 50
TGCCGGTGAC TTCCACAAGA AGATTGGTCT GTTTTGTTGC AGAGGCTGCC 100
CAGCGGGGCA ACTACCTGAA GGCCCCTTGC ACGGAGCCCT GCGCAACTCC 150
ACCTGCCTTG TGTGTCCCCA AGACACCTTC TTGGCCTGGG AGAACCACCA 200
TAATTCTGAA TGTGCCCCGCT GCCAGGCCTG TGATGAGCAG GCCTCCCAGG 250
TGGCGCTGGA GAACTGTTCA GCAGTGGCCG ACACCCGCTG TGGCTGTAAG 300
CAGGGCTGGT TTGTGGAGTG CCAGGGTCAG CCAATGTGTC AGCAGTTTCA 350

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CCCTTCTAAT GCCAACCATG CCTAGACTGC GGGGCCCTGC AACGCAACAC 400

ACGGCTAATN TGTTTCCCGC AGAGATNATT GTT 433

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 28 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

CCCGCTGCCA GGCCTGTGAT GAGCAGGC 28

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 28 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

CAGGGCCCCG CAGTCTAGGC ATGGTTGG 28

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1438 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

GAATTCCGGC GCGGAGGCCG AGAGAGAAGT CACTTGCCCT GGCTCTACCT 50

TGAAGTGGTT CTCAGGGTTG GGGCGAGAGT CGGGGTGGGG ACCGAGATGC 100

AGCTCTATCC TGTGCCCCTG GTCGCAGCAG GCAGCCCAGC GCTTCGCGTG 150

TTCTACTTGG CCTGTCCGCT GCCGCCTAAT GAGCTCAGGT CTAGGCCGAG 200

CAGAGGGGGC ACCTGGTCGG ACTCGGTTGG GCTCGGGCGG CCCC GCCTCC 250

CCCCGCCCCG CAGGCGGGCC CTTCTCGACG GCGCGGGGCG GGCCCTGCGG 300

GCGCGGGGCT GAAGGCGGAA CCACGACGGG CAGAGAGCAC GGAGCCGGGA 350

AGCCCCTGGG CGCCCGTCGG AGGGCTATGG AGCAGCGGCC GCGGGGCTGC 400

GCGGCGGTGG CGGCGGCGCT CCTCCTGGTG CTGCTGGGGG CCCGGGCCCA 450

GGGCGGCACT CGTAGCCCCA GGTGTGACTG TGCCGGTGAC TTCCACAAGA 500

AGATTGGTCT GTTTTGTTGC AGAGGCTGCC CAGCGGGGCA CTACCTGAAG 550

GCCCCTTGCA CGGAGCCCTG CGGCAACTCC ACCTGCCTTG TGTGTCCCCA 600  
 AGACACCTTC TTGGCCTGGG AGAACCACCA TAATTCTGAA TGTGCCCCGCT 650  
 GCCAGGCCTG TGATGAGCAG GCCTCCCAGG TGGCGCTGGA GAACTGTTCA 700  
 GCAGTGGCCG ACACCCGCTG TGGCTGTAAG CCAGGCTGGT TTGTGGAGTG 750  
 CCAGGTCAGC CAATGTGTCA GCAGTTCACC CTTCTACTGC CAACCATGCC 800  
 TAGACTGCGG GGCCCTGCAC CGCCACACAC GGCTACTCTG TTCCCGCAGA 850  
 GATACTGACT GTGGGACCTG CCTGCCTGGC TTCTATGAAC ATGGCGATGG 900  
 CTGCGTGTCC TGCCCCACGT AATTCCTAGC TGTCGTGGGA TGGAGGGAAG 950  
 GGCGGCTGGG AGCAGAGCAG GGGCCTGGGG TGGGGCAGGT GCTGCTGGTT 1000  
 CAGGAATAGG AAGAGGGGAT AGGGAGGAGG GAGCCTTGGC CCTGTGATGG 1050  
 GTGGGCCCCA CTTCAGGCAA ACTTAGATGG CAAAAGAGCA ATCTGGATCC 1100  
 GCCTTAGCCA GATACATAAG GGTATTTGCC TTCACTTTCA GCCAGCATTC 1150  
 CCCCCAGCGA TCCTAGCCAG ATATTACAGA TGATTTGTCA CTTACACAGA 1200  
 GAGTCACATT GATATAGCTT TAAAACTTGG GCTGAAGGAG GTTGAGGCTG 1250  
 CAGTGAGCTA TGATCGTGCC ACTGCACTTC AGCCTGGGCA ACAGAGCGAG 1300  
 ACCTATTAAA TAAATAAATA AATATTAAAT CTATTAAATA TTAAATATTA 1350  
 AATCTATTAA ATAAATAAAT ACAAAGGGCT GAGAGTCAGG ACTGTGCTGC 1400  
 TAGTTCTCTA GGGGATCTTG GGCAAGTGCA GAGAATTC 1438

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 417 amino acids
  - (B) TYPE: Amino Acid
  - (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Met	Glu	Gln	Arg	Pro	Arg	Gly	Cys	Ala	Ala	Val	Ala	Ala	Ala	Leu
1				5				10						15
Leu	Leu	Val	Leu	Leu	Gly	Ala	Arg	Ala	Gln	Gly	Gly	Thr	Arg	Ser
				20				25						30
Pro	Arg	Cys	Asp	Cys	Ala	Gly	Asp	Phe	His	Lys	Lys	Ile	Gly	Leu
				35				40						45
Phe	Cys	Cys	Arg	Gly	Cys	Pro	Ala	Gly	His	Tyr	Leu	Lys	Ala	Pro
				50				55						60
Cys	Thr	Glu	Pro	Cys	Gly	Asn	Ser	Thr	Cys	Leu	Val	Cys	Pro	Gln
				65				70						75
Asp	Thr	Phe	Leu	Ala	Trp	Glu	Asn	His	His	Asn	Ser	Glu	Cys	Ala
				80				85						90

Arg	Cys	Gln	Ala	Cys	Asp	Glu	Gln	Ala	Ser	Gln	Val	Ala	Leu	Glu	
				95					100					105	
Asn	Cys	Ser	Ala	Val	Ala	Asp	Thr	Arg	Cys	Gly	Cys	Lys	Pro	Gly	
				110					115					120	
Trp	Phe	Val	Glu	Cys	Gln	Val	Ser	Gln	Cys	Val	Ser	Ser	Ser	Pro	
				125					130					135	
Phe	Tyr	Cys	Gln	Pro	Cys	Leu	Asp	Cys	Gly	Ala	Leu	His	Arg	His	
				140					145					150	
Thr	Arg	Leu	Leu	Cys	Ser	Arg	Arg	Asp	Thr	Asp	Cys	Gly	Thr	Cys	
				155					160					165	
Leu	Pro	Gly	Phe	Tyr	Glu	His	Gly	Asp	Gly	Cys	Val	Ser	Cys	Pro	
				170					175					180	
Thr	Ser	Thr	Leu	Gly	Ser	Cys	Pro	Glu	Arg	Cys	Ala	Ala	Val	Cys	
				185					190					195	
Gly	Trp	Arg	Gln	Met	Phe	Trp	Val	Gln	Val	Leu	Leu	Ala	Gly	Leu	
				200					205					210	
Val	Val	Pro	Leu	Leu	Leu	Gly	Ala	Thr	Leu	Thr	Tyr	Thr	Tyr	Arg	
				215					220					225	
His	Cys	Trp	Pro	His	Lys	Pro	Leu	Val	Thr	Ala	Asp	Glu	Ala	Gly	
				230					235					240	
Met	Glu	Ala	Leu	Thr	Pro	Pro	Pro	Ala	Thr	His	Leu	Ser	Pro	Leu	
				245					250					255	
Asp	Ser	Ala	His	Thr	Leu	Leu	Ala	Pro	Pro	Asp	Ser	Ser	Glu	Lys	
				260					265					270	
Ile	Cys	Thr	Val	Gln	Leu	Val	Gly	Asn	Ser	Trp	Thr	Pro	Gly	Tyr	
				275					280					285	
Pro	Glu	Thr	Gln	Glu	Ala	Leu	Cys	Pro	Gln	Val	Thr	Trp	Ser	Trp	
				290					295					300	
Asp	Gln	Leu	Pro	Ser	Arg	Ala	Leu	Gly	Pro	Ala	Ala	Ala	Pro	Thr	
				305					310					315	
Leu	Ser	Pro	Glu	Ser	Pro	Ala	Gly	Ser	Pro	Ala	Met	Met	Leu	Gln	
				320					325					330	
Pro	Gly	Pro	Gln	Leu	Tyr	Asp	Val	Met	Asp	Ala	Val	Pro	Ala	Arg	
				335					340					345	
Arg	Trp	Lys	Glu	Phe	Val	Arg	Thr	Leu	Gly	Leu	Arg	Glu	Ala	Glu	
				350					355					360	
Ile	Glu	Ala	Val	Glu	Val	Glu	Ile	Gly	Arg	Phe	Arg	Asp	Gln	Gln	
				365					370					375	
Tyr	Glu	Met	Leu	Lys	Arg	Trp	Arg	Gln	Gln	Gln	Pro	Ala	Gly	Leu	
				380					385					390	
Gly	Ala	Val	Tyr	Ala	Ala	Leu	Glu	Arg	Met	Gly	Leu	Asp	Gly	Cys	
				395					400					405	

Val Glu Asp Leu Arg Ser Arg Leu Gln Arg Gly Pro  
 410 415

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 27 base pairs  
 (B) TYPE: Nucleic Acid  
 (C) STRANDEDNESS: Single  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

GGCGCTCTGG TGGCCCTTGC AGAAGCC 27

(2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 25 base pairs  
 (B) TYPE: Nucleic Acid  
 (C) STRANDEDNESS: Single  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

TTCGGCCGAG AAGTTGAGAA ATGTC 25

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1634 base pairs  
 (B) TYPE: Nucleic Acid  
 (C) STRANDEDNESS: Single  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

CGGGCCCTGC GGGCGCGGGG CTGAAGGCGG AACCACGACG GGCAGAGAGC 50

ACGGAGCCGG GAAGCCCCTG GGCGCCCGTC GGAGGGCT ATG GAG 94  
 Met Glu  
 1

CAG CGG CCG CGG GGC TGC GCG GCG GTG GCG GCG GCG CTC 133  
 Gln Arg Pro Arg Gly Cys Ala Ala Val Ala Ala Ala Leu  
 5 10 15

CTC CTG GTG CTG CTG GGG GCC CGG GCC CAG GGC GGC ACT 172  
 Leu Leu Val Leu Leu Gly Ala Arg Ala Gln Gly Gly Thr  
 20 25

CGT AGC CCC AGG TGT GAC TGT GCC GGT GAC TTC CAC AAG 211  
 Arg Ser Pro Arg Cys Asp Cys Ala Gly Asp Phe His Lys  
 30 35 40

AAG ATT GGT CTG TTT TGT TGC AGA GGC TGC CCA GCG GGG 250  
 Lys Ile Gly Leu Phe Cys Cys Arg Gly Cys Pro Ala Gly  
 45 50

CAC	TAC	CTG	AAG	GCC	CCT	TGC	ACG	GAG	CCC	TGC	GGC	AAC	289
His	Tyr	Leu	Lys	Ala	Pro	Cys	Thr	Glu	Pro	Cys	Gly	Asn	
55					60					65			
TCC	ACC	TGC	CTT	GTG	TGT	CCC	CAA	GAC	ACC	TTC	TTG	GCC	328
Ser	Thr	Cys	Leu	Val	Cys	Pro	Gln	Asp	Thr	Phe	Leu	Ala	
		70					75					80	
TGG	GAG	AAC	CAC	CAT	AAT	TCT	GAA	TGT	GCC	CGC	TGC	CAG	367
Trp	Glu	Asn	His	His	Asn	Ser	Glu	Cys	Ala	Arg	Cys	Gln	
				85					90				
GCC	TGT	GAT	GAG	CAG	GCC	TCC	CAG	GTG	GCG	CTG	GAG	AAC	406
Ala	Cys	Asp	Glu	Gln	Ala	Ser	Gln	Val	Ala	Leu	Glu	Asn	
	95					100					105		
TGT	TCA	GCA	GTG	GCC	GAC	ACC	CGC	TGT	GGC	TGT	AAG	CCA	445
Cys	Ser	Ala	Val	Ala	Asp	Thr	Arg	Cys	Gly	Cys	Lys	Pro	
			110					115					
GGC	TGG	TTT	GTG	GAG	TGC	CAG	GTC	AGC	CAA	TGT	GTC	AGC	484
Gly	Trp	Phe	Val	Glu	Cys	Gln	Val	Ser	Gln	Cys	Val	Ser	
120					125					130			
AGT	TCA	CCC	TTC	TAC	TGC	CAA	CCA	TGC	CTA	GAC	TGC	GGG	523
Ser	Ser	Pro	Phe	Tyr	Cys	Gln	Pro	Cys	Leu	Asp	Cys	Gly	
		135					140					145	
GCC	CTG	CAC	CGC	CAC	ACA	CGG	CTA	CTC	TGT	TCC	CGC	AGA	562
Ala	Leu	His	Arg	His	Thr	Arg	Leu	Leu	Cys	Ser	Arg	Arg	
				150					155				
GAT	ACT	GAC	TGT	GGG	ACC	TGC	CTG	CCT	GGC	TTC	TAT	GAA	601
Asp	Thr	Asp	Cys	Gly	Thr	Cys	Leu	Pro	Gly	Phe	Tyr	Glu	
	160					165					170		
CAT	GGC	GAT	GGC	TGC	GTG	TCC	TGC	CCC	ACG	AGC	ACC	CTG	640
His	Gly	Asp	Gly	Cys	Val	Ser	Cys	Pro	Thr	Ser	Thr	Leu	
			175					180					
GGG	AGC	TGT	CCA	GAG	CGC	TGT	GCC	GCT	GTC	TGT	GGC	TGG	679
Gly	Ser	Cys	Pro	Glu	Arg	Cys	Ala	Ala	Val	Cys	Gly	Trp	
185					190					195			
AGG	CAG	ATG	TTC	TGG	GTC	CAG	GTG	CTC	CTG	GCT	GGC	CTT	718
Arg	Gln	Met	Phe	Trp	Val	Gln	Val	Leu	Leu	Ala	Gly	Leu	
		200					205					210	
GTG	GTC	CCC	CTC	CTG	CTT	GGG	GCC	ACC	CTG	ACC	TAC	ACA	757
Val	Val	Pro	Leu	Leu	Leu	Gly	Ala	Thr	Leu	Thr	Tyr	Thr	
				215					220				
TAC	CGC	CAC	TGC	TGG	CCT	CAC	AAG	CCC	CTG	GTT	ACT	GCA	796
Tyr	Arg	His	Cys	Trp	Pro	His	Lys	Pro	Leu	Val	Thr	Ala	
	225					230					235		
GAT	GAA	GCT	GGG	ATG	GAG	GCT	CTG	ACC	CCA	CCA	CCG	GCC	835
Asp	Glu	Ala	Gly	Met	Glu	Ala	Leu	Thr	Pro	Pro	Pro	Ala	
			240					245					
ACC	CAT	CTG	TCA	CCC	TTG	GAC	AGC	GCC	CAC	ACC	CTT	CTA	874
Thr	His	Leu	Ser	Pro	Leu	Asp	Ser	Ala	His	Thr	Leu	Leu	
250					255						260		

GCA	CCT	CCT	GAC	AGC	AGT	GAG	AAG	ATC	TGC	ACC	GTC	CAG	913
Ala	Pro	Pro	Asp	Ser	Ser	Glu	Lys	Ile	Cys	Thr	Val	Gln	
		265					270					275	
TTG	GTG	GGT	AAC	AGC	TGG	ACC	CCT	GGC	TAC	CCC	GAG	ACC	952
Leu	Val	Gly	Asn	Ser	Trp	Thr	Pro	Gly	Tyr	Pro	Glu	Thr	
			280						285				
CAG	GAG	GCG	CTC	TGC	CCG	CAG	GTG	ACA	TGG	TCC	TGG	GAC	991
Gln	Glu	Ala	Leu	Cys	Pro	Gln	Val	Thr	Trp	Ser	Trp	Asp	
	290					295					300		
CAG	TTG	CCC	AGC	AGA	GCT	CTT	GGC	CCC	GCT	GCT	GCG	CCC	1030
Gln	Leu	Pro	Ser	Arg	Ala	Leu	Gly	Pro	Ala	Ala	Ala	Pro	
			305				310						
ACA	CTC	TCG	CCA	GAG	TCC	CCA	GCC	GGC	TCG	CCA	GCC	ATG	1069
Thr	Leu	Ser	Pro	Glu	Ser	Pro	Ala	Gly	Ser	Pro	Ala	Met	
	315				320					325			
ATG	CTG	CAG	CCG	GGC	CCG	CAG	CTC	TAC	GAC	GTG	ATG	GAC	1108
Met	Leu	Gln	Pro	Gly	Pro	Gln	Leu	Tyr	Asp	Val	Met	Asp	
		330					335					340	
GCG	GTC	CCA	GCG	CGG	CGC	TGG	AAG	GAG	TTC	GTG	CGC	ACG	1147
Ala	Val	Pro	Ala	Arg	Arg	Trp	Lys	Glu	Phe	Val	Arg	Thr	
				345					350				
CTG	GGG	CTG	CGC	GAG	GCA	GAG	ATC	GAA	GCC	GTG	GAG	GTG	1186
Leu	Gly	Leu	Arg	Glu	Ala	Glu	Ile	Glu	Ala	Val	Glu	Val	
	355					360					365		
GAG	ATC	GGC	CGC	TTC	CGA	GAC	CAG	CAG	TAC	GAG	ATG	CTC	1225
Glu	Ile	Gly	Arg	Phe	Arg	Asp	Gln	Gln	Tyr	Glu	Met	Leu	
			370				375						
AAG	CGC	TGG	CGC	CAG	CAG	CAG	CCC	GCG	GGC	CTC	GGA	GCC	1264
Lys	Arg	Trp	Arg	Gln	Gln	Gln	Pro	Ala	Gly	Leu	Gly	Ala	
	380				385					390			
GTT	TAC	GCG	GCC	CTG	GAG	CGC	ATG	GGG	CTG	GAC	GGC	TGC	1303
Val	Tyr	Ala	Ala	Leu	Glu	Arg	Met	Gly	Leu	Asp	Gly	Cys	
		395				400					405		
GTG	GAA	GAC	TTG	CGC	AGC	CGC	CTG	CAG	CGC	GGC	CCG	T	1340
Val	Glu	Asp	Leu	Arg	Ser	Arg	Leu	Gln	Arg	Gly	Pro		
				410				415		417			
GACACGGCGC CCACTTGCCA CCTAGGCGCT CTGGTGGCCC TTGCAGAAGC 1390													
CCTAAGTACG GTTACTTATG CGTG TAGACA TTTTATGTCA CTTATTAAGC 1440													
CGCTGGCACG GCCCTGCGTA GCAGCACCAG CCGGCCCCAC CCCTGCTCGC 1490													
CCCTATCGCT CCAGCCAAGG CGAAGAAGCA CGAACGAATG TCGAGAGGGG 1540													
GTGAAGACAT TTCTCAACTT CTCGGCCGGA GTTTGGCTGA GATCGCGGTA 1590													
TTAAATCTGT GAAAGAAAAC AAAAAAAAAA AAAAAAAAAA AAAA 1634													

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

ATCAGGGACT TTCCGCTGGG GACTTTCCG 29

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 30 base pairs
  - (B) TYPE: Nucleic Acid
  - (C) STRANDEDNESS: Single
  - (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

AGGATGGGAA GTGTGTGATA TATCCTTGAT 30

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 154 amino acids
  - (B) TYPE: Amino Acid
  - (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Val	Cys	Pro	Gln	Gly	Lys	Tyr	Ile	His	Pro	Gln	Asn	Asn	Ser	Ile	
1				5				10						15	
Cys	Cys	Thr	Lys	Cys	His	Lys	Gly	Thr	Tyr	Leu	Tyr	Asn	Asp	Cys	
				20				25						30	
Pro	Gly	Pro	Gly	Gln	Asp	Thr	Asp	Cys	Arg	Glu	Cys	Glu	Ser	Gly	
				35				40						45	
Ser	Phe	Thr	Ala	Ser	Glu	Asn	His	Leu	Arg	His	Cys	Leu	Ser	Cys	
				50				55						60	
Ser	Lys	Cys	Arg	Lys	Glu	Met	Gly	Gln	Val	Glu	Ile	Ser	Ser	Cys	
				65				70						75	
Thr	Val	Asp	Arg	Asp	Thr	Val	Cys	Gly	Cys	Arg	Lys	Asn	Gln	Tyr	
				80				85						90	
Arg	His	Tyr	Trp	Ser	Glu	Asn	Leu	Phe	Gln	Cys	Phe	Asn	Cys	Ser	
				95				100						105	
Leu	Cys	Leu	Asn	Gly	Thr	Val	His	Leu	Ser	Cys	Gln	Glu	Lys	Gln	
				110				115						120	
Asn	Thr	Val	Cys	Thr	Cys	His	Ala	Gly	Phe	Phe	Leu	Arg	Glu	Asn	
				125				130						135	
Glu	Cys	Val	Ser	Cys	Ser	Asn	Cys	Lys	Lys	Ser	Leu	Glu	Cys	Thr	
				140				145						150	
Lys	Leu	Cys	Leu												

(2) INFORMATION FOR SEQ ID NO:13:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 163 amino acids  
(B) TYPE: Amino Acid  
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Thr	Cys	Arg	Leu	Arg	Glu	Tyr	Tyr	Asp	Gln	Thr	Ala	Gln	Met	Cys	
1				5					10					15	
Cys	Ser	Lys	Cys	Ser	Pro	Gly	Gln	His	Ala	Lys	Val	Phe	Cys	Thr	
				20					25					30	
Lys	Thr	Ser	Asp	Thr	Val	Cys	Asp	Ser	Cys	Glu	Asp	Ser	Thr	Tyr	
				35					40					45	
Thr	Gln	Leu	Trp	Asn	Trp	Val	Pro	Glu	Cys	Leu	Ser	Cys	Gly	Ser	
				50					55					60	
Arg	Cys	Ser	Ser	Asp	Gln	Val	Glu	Thr	Gln	Ala	Cys	Thr	Arg	Glu	
				65					70					75	
Gln	Asn	Arg	Ile	Cys	Thr	Cys	Arg	Pro	Gly	Trp	Tyr	Cys	Ala	Leu	
				80					85					90	
Ser	Lys	Gln	Glu	Gly	Cys	Arg	Leu	Cys	Ala	Pro	Leu	Arg	Lys	Cys	
				95					100					105	
Arg	Pro	Gly	Phe	Gly	Val	Ala	Arg	Pro	Gly	Thr	Glu	Thr	Ser	Asp	
				110					115					120	
Val	Val	Cys	Lys	Pro	Cys	Ala	Pro	Gly	Thr	Phe	Ser	Asn	Thr	Thr	
				125					130					135	
Ser	Ser	Thr	Asp	Ile	Cys	Arg	Pro	His	Gln	Ile	Cys	Asn	Val	Val	
				140					145					150	
Ala	Ile	Pro	Gly	Asn	Ala	Ser	Arg	Asp	Ala	Val	Cys	Thr			
				155					160						

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 170 amino acids  
(B) TYPE: Amino Acid  
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Thr	Cys	Arg	Asp	Gln	Glu	Lys	Glu	Tyr	Tyr	Glu	Pro	Gln	His	Arg	
1				5					10					15	
Ile	Cys	Cys	Ser	Arg	Cys	Pro	Pro	Gly	Thr	Tyr	Val	Ser	Ala	Lys	
				20					25					30	
Cys	Ser	Arg	Ile	Arg	Asp	Thr	Val	Cys	Ala	Thr	Cys	Ala	Glu	Asn	
				35					40					45	
Ser	Tyr	Asn	Glu	His	Trp	Asn	Tyr	Leu	Thr	Ile	Cys	Gln	Leu	Cys	
				50					55					60	

Arg	Pro	Cys	Asp	Pro	Val	Met	Gly	Leu	Glu	Glu	Ile	Ala	Pro	Cys	
				65					70					75	
Thr	Ser	Lys	Arg	Lys	Thr	Gln	Cys	Arg	Cys	Gln	Pro	Gly	Met	Phe	
				80					85					90	
Cys	Ala	Ala	Trp	Ala	Leu	Glu	Cys	Thr	His	Cys	Glu	Leu	Leu	Ser	
				95					100					105	
Asp	Cys	Pro	Pro	Gly	Thr	Glu	Ala	Glu	Leu	Lys	Asp	Glu	Val	Gly	
				110					115					120	
Lys	Gly	Asn	Asn	His	Cys	Val	Pro	Cys	Lys	Ala	Gly	His	Phe	Gln	
				125					130					135	
Asn	Thr	Ser	Ser	Pro	Ser	Ala	Arg	Cys	Gln	Pro	His	Thr	Arg	Cys	
				140					145					150	
Glu	Asn	Gln	Gly	Leu	Val	Glu	Ala	Ala	Pro	Gly	Thr	Ala	Gln	Ser	
				155					160					165	
Asp	Thr	Thr	Cys	Lys											
				170											

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 119 amino acids  
 (B) TYPE: Amino Acid  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Asn	Leu	Glu	Gly	Leu	His	His	Asp	Gly	Gln	Phe	Cys	His	Lys	Pro	
1				5					10					15	
Cys	Pro	Pro	Gly	Glu	Arg	Lys	Ala	Arg	Asp	Cys	Thr	Val	Asn	Gly	
				20					25					30	
Asp	Glu	Pro	Asp	Cys	Val	Pro	Cys	Gln	Glu	Gly	Lys	Glu	Tyr	Thr	
				35					40					45	
Asp	Lys	Ala	His	Phe	Ser	Ser	Lys	Cys	Arg	Arg	Cys	Arg	Leu	Cys	
				50					55					60	
Asp	Glu	Gly	His	Gly	Leu	Glu	Val	Glu	Ile	Asn	Cys	Thr	Arg	Thr	
				65					70					75	
Gln	Asn	Thr	Lys	Cys	Arg	Cys	Lys	Pro	Asn	Phe	Phe	Cys	Asn	Ser	
				80					85					90	
Thr	Val	Cys	Glu	His	Cys	Asp	Pro	Cys	Thr	Lys	Cys	Glu	His	Gly	
				95					100					105	
Ile	Ile	Lys	Glu	Cys	Thr	Leu	Thr	Ser	Asn	Thr	Lys	Cys	Lys		
				110					115						

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 159 amino acids  
 (B) TYPE: Amino Acid  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Ala	Cys	Pro	Thr	Gly	Leu	Tyr	Thr	His	Ser	Gly	Glu	Cys	Cys	Lys
1				5					10					15
Ala	Cys	Asn	Leu	Gly	Glu	Gly	Val	Ala	Gln	Pro	Cys	Gly	Ala	Asn
				20					25					30
Gln	Thr	Val	Cys	Glu	Pro	Cys	Leu	Asp	Ser	Val	Thr	Phe	Ser	Asp
				35					40					45
Val	Val	Ser	Ala	Thr	Glu	Pro	Cys	Lys	Pro	Cys	Thr	Glu	Cys	Val
				50					55					60
Gly	Leu	Gln	Ser	Met	Ser	Ala	Pro	Cys	Val	Glu	Ala	Asp	Asp	Ala
				65					70					75
Val	Cys	Arg	Cys	Ala	Tyr	Gly	Tyr	Tyr	Gln	Asp	Glu	Thr	Thr	Gly
				80					85					90
Arg	Cys	Glu	Ala	Cys	Arg	Val	Cys	Glu	Ala	Gly	Ser	Gly	Leu	Val
				95					100					105
Phe	Ser	Cys	Gln	Asp	Lys	Gln	Asn	Thr	Val	Cys	Glu	Glu	Cys	Pro
				110					115					120
Asp	Gly	Thr	Tyr	Ser	Asp	Glu	Ala	Asn	His	Val	Asp	Pro	Cys	Leu
				125					130					135
Pro	Cys	Thr	Val	Cys	Glu	Asp	Thr	Glu	Arg	Gln	Leu	Arg	Glu	Cys
				140					145					150
Thr	Arg	Trp	Ala	Asp	Ala	Glu	Cys	Glu						
				155										

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 163 amino acids  
(B) TYPE: Amino Acid  
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Ala	Cys	Arg	Glu	Lys	Gln	Tyr	Leu	Ile	Asn	Ser	Gln	Cys	Cys	Ser
1				5					10					15
Leu	Cys	Gln	Pro	Gly	Gln	Lys	Leu	Val	Ser	Asp	Cys	Thr	Glu	Phe
				20					25					30
Thr	Glu	Thr	Glu	Cys	Leu	Pro	Cys	Gly	Glu	Ser	Glu	Phe	Leu	Asp
				35					40					45
Thr	Trp	Asn	Arg	Glu	Thr	His	Cys	His	Gln	His	Lys	Tyr	Cys	Asp
				50					55					60
Pro	Asn	Leu	Gly	Leu	Arg	Val	Gln	Gln	Lys	Gly	Thr	Ser	Glu	Thr
				65					70					75
Asp	Thr	Ile	Cys	Thr	Cys	Glu	Glu	Gly	Trp	His	Cys	Thr	Ser	Glu
				80					85					90

Ala	Cys	Glu	Ser	Cys	Val	Leu	His	Arg	Ser	Cys	Ser	Pro	Gly	Phe	
				95					100					105	
Gly	Val	Lys	Gln	Ile	Ala	Thr	Gly	Val	Ser	Asp	Thr	Ile	Cys	Glu	
				110					115					120	
Pro	Cys	Pro	Val	Gly	Phe	Phe	Ser	Asn	Val	Ser	Ser	Ala	Phe	Glu	
				125					130					135	
Lys	Cys	His	Pro	Trp	Thr	Ser	Cys	Glu	Thr	Lys	Asp	Leu	Val	Val	
				140					145					150	
Gln	Gln	Ala	Gly	Thr	Asn	Lys	Thr	Asp	Val	Val	Cys	Gly			
				155					160						

(2) INFORMATION FOR SEQ ID NO:18:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 121 amino acids  
 (B) TYPE: Amino Acid  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Ser	Cys	Pro	Glu	Arg	His	Tyr	Trp	Ala	Gln	Gly	Lys	Leu	Cys	Cys	
1				5					10					15	
Gln	Met	Cys	Glu	Pro	Gly	Thr	Phe	Leu	Val	Lys	Asp	Cys	Asp	Gln	
				20					25					30	
His	Arg	Lys	Ala	Ala	Gln	Cys	Asp	Pro	Cys	Ile	Pro	Gly	Val	Ser	
				35					40					45	
Phe	Ser	Pro	Asp	His	His	Thr	Arg	Pro	His	Cys	Glu	Ser	Cys	Arg	
				50					55					60	
His	Cys	Asn	Ser	Gly	Leu	Leu	Val	Arg	Asn	Cys	Thr	Ile	Thr	Ala	
				65					70					75	
Asn	Ala	Glu	Cys	Ala	Cys	Arg	Asn	Gly	Trp	Gln	Cys	Arg	Asp	Lys	
				80					85					90	
Glu	Cys	Thr	Glu	Cys	Asp	Pro	Leu	Pro	Asn	Pro	Ser	Leu	Thr	Ala	
				95					100					105	
Arg	Ser	Ser	Gln	Ala	Leu	Ser	Pro	His	Pro	Gln	Pro	Thr	His	Leu	
				110					115					120	
Pro															

(2) INFORMATION FOR SEQ ID NO:19:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 123 amino acids  
 (B) TYPE: Amino Acid  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Thr	Cys	His	Gly	Asn	Pro	Ser	His	Tyr	Tyr	Asp	Lys	Ala	Val	Arg	
1				5					10					15	

Arg	Cys	Cys	Tyr	Arg	Cys	Pro	Met	Gly	Leu	Phe	Pro	Thr	Gln	Gln	
				20					25					30	
Cys	Pro	Gln	Arg	Pro	Thr	Asp	Cys	Arg	Lys	Gln	Cys	Glu	Pro	Asp	
				35					40					45	
Tyr	Tyr	Leu	Asp	Glu	Ala	Asp	Arg	Cys	Thr	Ala	Cys	Val	Thr	Cys	
				50					55					60	
Ser	Arg	Asp	Asp	Leu	Val	Glu	Lys	Thr	Pro	Cys	Ala	Trp	Asn	Ser	
				65					70					75	
Ser	Arg	Val	Cys	Glu	Cys	Arg	Pro	Gly	Met	Phe	Cys	Ser	Thr	Ser	
				80					85					90	
Ala	Val	Asn	Ser	Cys	Ala	Arg	Cys	Phe	Phe	His	Ser	Val	Cys	Pro	
				95					100					105	
Ala	Gly	Met	Ile	Val	Lys	Phe	Pro	Gly	Thr	Ala	Gln	Lys	Asn	Thr	
				110					115					120	
Val	Cys	Glu													

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 138 amino acids
  - (B) TYPE: Amino Acid
  - (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

His	Cys	Val	Gly	Asp	Thr	Tyr	Pro	Ser	Asn	Asp	Arg	Cys	Cys	His	
1				5					10					15	
Glu	Cys	Arg	Pro	Gly	Asn	Gly	Met	Val	Ser	Arg	Cys	Ser	Arg	Ser	
				20					25					30	
Gln	Asn	Thr	Val	Cys	Arg	Pro	Cys	Gly	Pro	Gly	Phe	Tyr	Asn	Asp	
				35					40					45	
Val	Val	Ser	Ser	Lys	Pro	Cys	Lys	Pro	Cys	Thr	Trp	Cys	Asn	Leu	
				50					55					60	
Arg	Ser	Gly	Ser	Glu	Arg	Lys	Gln	Leu	Cys	Thr	Ala	Thr	Gln	Asp	
				65					70					75	
Thr	Val	Cys	Arg	Cys	Arg	Ala	Gly	Thr	Gln	Pro	Leu	Asp	Ser	Tyr	
				80					85					90	
Lys	Pro	Gly	Val	Asp	Cys	Ala	Pro	Cys	Pro	Pro	Gly	His	Phe	Ser	
				95					100					105	
Pro	Gly	Asp	Asn	Gln	Ala	Cys	Lys	Pro	Trp	Thr	Asn	Cys	Thr	Leu	
				110					115					120	
Ala	Gly	Lys	His	Thr	Leu	Gln	Pro	Ala	Ser	Asn	Ser	Ser	Asp	Ala	
				125					130					135	
Ile	Cys	Glu													

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 197 amino acids  
(B) TYPE: PRT  
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Met	Gly	Leu	Ser	Thr	Val	Pro	Asp	Leu	Leu	Leu	Pro	Leu	Val	Leu	
1				5				10						15	
Leu	Glu	Leu	Leu	Val	Gly	Ile	Tyr	Pro	Ser	Gly	Val	Ile	Gly	Leu	
				20				25						30	
Val	Pro	His	Leu	Gly	Asp	Arg	Glu	Lys	Arg	Asp	Ser	Val	Cys	Pro	
				35				40						45	
Gln	Gly	Lys	Tyr	Ile	His	Pro	Gln	Asn	Asn	Ser	Ile	Cys	Cys	Thr	
				50				55						60	
Lys	Cys	His	Lys	Gly	Thr	Tyr	Leu	Tyr	Asn	Asp	Cys	Pro	Gly	Pro	
				65				70						75	
Gly	Gln	Asp	Thr	Asp	Cys	Arg	Glu	Cys	Glu	Ser	Gly	Ser	Phe	Thr	
				80				85						90	
Ala	Ser	Glu	Asn	His	Leu	Arg	His	Cys	Leu	Ser	Cys	Ser	Lys	Cys	
				95				100						105	
Arg	Lys	Glu	Met	Gly	Gln	Val	Glu	Ile	Ser	Ser	Cys	Thr	Val	Asp	
				110				115						120	
Arg	Asp	Thr	Val	Cys	Gly	Cys	Arg	Lys	Asn	Gln	Tyr	Arg	His	Tyr	
				125				130						135	
Trp	Ser	Glu	Asn	Leu	Phe	Gln	Cys	Phe	Asn	Cys	Ser	Leu	Cys	Leu	
				140				145						150	
Asn	Gly	Thr	Val	His	Leu	Ser	Cys	Gln	Glu	Lys	Gln	Asn	Thr	Val	
				155				160						165	
Cys	Thr	Cys	His	Ala	Gly	Phe	Phe	Leu	Arg	Glu	Asn	Glu	Cys	Val	
				170				175						180	
Ser	Cys	Ser	Asn	Cys	Lys	Lys	Ser	Leu	Glu	Cys	Thr	Lys	Leu	Cys	
				185				190						195	

Leu Pro

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 167 amino acids  
(B) TYPE: PRT  
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Met	Leu	Gly	Ile	Trp	Thr	Leu	Leu	Pro	Leu	Val	Leu	Thr	Ser	Val	
1				5				10						15	

Ala	Arg	Leu	Ser	Ser	Lys	Ser	Val	Asn	Ala	Gln	Val	Thr	Asp	Ile	
				20					25					30	
Asn	Ser	Lys	Gly	Leu	Glu	Leu	Arg	Lys	Thr	Val	Thr	Thr	Val	Glu	
				35					40					45	
Thr	Gln	Asn	Leu	Glu	Gly	Leu	His	His	Asp	Gly	Gln	Phe	Cys	His	
				50					55					60	
Lys	Pro	Cys	Pro	Pro	Gly	Glu	Arg	Lys	Ala	Arg	Asp	Cys	Thr	Val	
				65					70					75	
Asn	Gly	Asp	Glu	Pro	Asp	Cys	Val	Pro	Cys	Gln	Glu	Gly	Lys	Glu	
				80					85					90	
Tyr	Thr	Asp	Lys	Ala	His	Phe	Ser	Ser	Lys	Cys	Arg	Arg	Cys	Arg	
				95					100					105	
Leu	Cys	Asp	Glu	Gly	His	Gly	Leu	Glu	Val	Glu	Ile	Asn	Cys	Thr	
				110					115					120	
Arg	Thr	Gln	Asn	Thr	Lys	Cys	Arg	Cys	Lys	Pro	Asn	Phe	Phe	Cys	
				125					130					135	
Asn	Ser	Thr	Val	Cys	Glu	His	Cys	Asp	Pro	Cys	Thr	Lys	Cys	Glu	
				140					145					150	
His	Gly	Ile	Ile	Lys	Glu	Cys	Thr	Leu	Thr	Ser	Asn	Thr	Lys	Cys	
				155					160					165	

Lys Glu

(2) INFORMATION FOR SEQ ID NO:23:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 78 amino acids  
 (B) TYPE: PRT  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

Val	Val	Glu	Asn	Val	Pro	Pro	Leu	Arg	Trp	Lys	Glu	Phe	Val	Arg	
1				5					10					15	
Arg	Leu	Gly	Leu	Ser	Asp	His	Glu	Ile	Asp	Arg	Leu	Glu	Leu	Gln	
				20					25					30	
Asn	Gly	Arg	Cys	Leu	Arg	Glu	Ala	Gln	Tyr	Ser	Met	Leu	Ala	Thr	
				35					40					45	
Trp	Arg	Arg	Arg	Thr	Pro	Arg	Arg	Glu	Ala	Thr	Leu	Glu	Leu	Leu	
				50					55					60	
Gly	Arg	Val	Leu	Arg	Asp	Met	Asp	Leu	Leu	Gly	Cys	Leu	Glu	Asp	
				65					70					75	

Ile Glu Glu

(2) INFORMATION FOR SEQ ID NO:24:

- (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 77 amino acids  
 (B) TYPE: PRT  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Ile	Ala	Gly	Val	Met	Thr	Leu	Ser	Gln	Val	Lys	Gly	Phe	Val	Arg
1				5					10					15
Lys	Asn	Gly	Val	Asn	Glu	Ala	Lys	Ile	Asp	Glu	Ile	Lys	Asn	Asp
				20					25					30
Asn	Val	Gln	Asp	Thr	Ala	Glu	Gln	Lys	Val	Gln	Leu	Leu	Arg	Asn
				35					40					45
Trp	His	Gln	Leu	His	Gly	Lys	Lys	Glu	Ala	Tyr	Asp	Thr	Leu	Ile
				50					55					60
Lys	Asp	Leu	Lys	Lys	Ala	Asn	Leu	Cys	Thr	Leu	Ala	Glu	Lys	Ile
				65					70					75
Gln	Thr													

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 74 amino acids  
 (B) TYPE: PRT  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Ile	Cys	Asp	Asn	Val	Gly	Lys	Asp	Trp	Arg	Arg	Leu	Ala	Arg	Gln
1				5					10					15
Leu	Lys	Val	Ser	Asp	Thr	Lys	Ile	Asp	Ser	Ile	Glu	Asp	Arg	Tyr
				20					25					30
Pro	Arg	Asn	Leu	Thr	Glu	Arg	Val	Arg	Glu	Ser	Leu	Arg	Ile	Trp
				35					40					45
Lys	Asn	Thr	Glu	Lys	Glu	Asn	Ala	Thr	Val	Ala	His	Leu	Val	Gly
				50					55					60
Ala	Leu	Arg	Ser	Cys	Gln	Met	Asn	Leu	Val	Ala	Asp	Leu	Val	
				65					70					

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 77 amino acids  
 (B) TYPE: PRT  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Asn	Arg	Pro	Leu	Ser	Leu	Lys	Asp	Gln	Gln	Thr	Phe	Ala	Arg	Ser
1				5					10					15
Val	Gly	Leu	Lys	Trp	Arg	Lys	Val	Gly	Arg	Ser	Leu	Gln	Arg	Gly
				20					25					30

Cys	Arg	Ala	Leu	Arg	Asp	Pro	Ala	Leu	Asp	Ser	Leu	Ala	Tyr	Glu
			35						40					45
Tyr	Glu	Arg	Glu	Gly	Leu	Tyr	Glu	Gln	Ala	Phe	Gln	Leu	Leu	Arg
			50						55					60
Arg	Phe	Val	Gln	Ala	Glu	Gly	Arg	Arg	Ala	Thr	Leu	Gln	Arg	Leu
			65						70					75
Val	Glu													

(2) INFORMATION FOR SEQ ID NO:27:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 77 amino acids  
 (B) TYPE: PRT  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Ile	Arg	Glu	Asn	Leu	Gly	Lys	His	Trp	Lys	Asn	Cys	Ala	Arg	Lys
1				5					10					15
Leu	Gly	Phe	Thr	Gln	Ser	Gln	Ile	Asp	Glu	Ile	Asp	His	Asp	Tyr
				20					25					30
Glu	Arg	Asp	Gly	Leu	Lys	Glu	Lys	Val	Tyr	Gln	Met	Leu	Gln	Lys
				35					40					45
Trp	Val	Met	Arg	Glu	Gly	Ile	Lys	Gly	Ala	Thr	Val	Gly	Lys	Leu
				50					55					60
Ala	Gln	Ala	Leu	His	Gln	Cys	Ser	Arg	Ile	Asp	Leu	Leu	Ser	Ser
				65					70					75
Leu	Thr													

(2) INFORMATION FOR SEQ ID NO:28:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 63 amino acids  
 (B) TYPE: PRT  
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Met	Ala	Val	Ala	Phe	Tyr	Ile	Pro	Asp	Gln	Ala	Thr	Leu	Leu	Arg
1				5					10					15
Glu	Ala	Glu	Gln	Lys	Glu	Gln	Gln	Ile	Leu	Arg	Leu	Arg	Glu	Ser
				20					25					30
Gln	Trp	Arg	Phe	Leu	Ala	Thr	Val	Val	Leu	Glu	Thr	Leu	Lys	Gln
				35					40					45
Tyr	Thr	Ser	Cys	His	Pro	Lys	Thr	Gly	Arg	Lys	Ser	Gly	Lys	Tyr
				50					55					60
Arg	Lys	Pro												